

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend claims 76, 78, 80, 82, 98, 100, 102, and 104 as follows:

Listing of Claims:

1-59. (Cancelled)

60. (Previously Presented) A planarizing machine for planarizing microelectronic-device substrate assemblies, comprising:

a support table;

a polishing pad on the support table, the polishing pad having a body, a planarizing surface on the body, and a plurality of abrasive particles fixedly attached to the body at the planarizing surface;

a carrier assembly having a carrier head configured to hold a substrate assembly and a drive mechanism attached to the carrier head to move the carrier relative to the polishing pad; and

a non-abrasive lubricating planarizing solution without abrasive particles on the polishing pad, the lubricating planarizing solution having a viscosity of at least approximately between 4-100 cp.

61. (Previously Presented) A planarizing machine for planarizing microelectronic-device substrate assemblies, comprising:

a support table;

a polishing pad on the support table, the polishing pad having a body, a planarizing surface on the body, and a plurality of abrasive particles fixedly attached to the body at the planarizing surface;

a carrier assembly having a carrier head configured to hold a substrate assembly and a drive mechanism attached to the carrier head to move the carrier relative to the polishing pad;

a first container and a supply of a non-abrasive solution in the first container;
a second container and a supply of a non-abrasive lubricant-additive in the second container; and

a mixing site coupled to the first and second containers, the lubricant-additive being mixed with non-abrasive solution at the mixing site to produce a lubricating planarizing solution, and the mixing site being coupled to a nozzle to dispense the lubricating planarizing solution onto the polishing pad.

62. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises glycerol mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

63. (Previously Presented) The planarizing machine of claim 62, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

64. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises 10% by weight of glycerol mixed into 90% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

65. (Previously Presented) The planarizing machine of claim 64, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

66. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises polypropylene glycol mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

67. (Previously Presented) The planarizing machine of claim 66, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

68. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises 5% by weight polypropylene glycol mixed into 95% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

69. (Previously Presented) The planarizing machine of claim 68, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

70. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises 10% by weight polypropylene glycol mixed into 90% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

71. (Previously Presented) The planarizing machine of claim 70, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

72. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises polyvinyl alcohol mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

73. (Previously Presented) The planarizing machine of claim 72, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

74. (Previously Presented) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises 10% by weight of polyvinyl alcohol mixed into 90% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

75. (Previously Presented) The planarizing machine of claim 74, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

76. (Currently Amended) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises CARBOPOL homopolymers and copolymers of acrylic acid crosslinked with a polyalkenyl polyether mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

77. (Previously Presented) The planarizing machine of claim 76, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

78. (Currently Amended) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises 0.25% by weight of CARBOPOL homopolymers and copolymers of acrylic acid crosslinked with a polyalkenyl polyether mixed into 99.75% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

79. (Previously Presented) The planarizing machine of claim 78, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

80. (Currently Amended) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises POLYOX ethylene oxide polymers mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

81. (Previously Presented) The planarizing machine of claim 80, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

82. (Currently Amended) The planarizing machine of claim 60, wherein the non-abrasive lubricating planarizing solution further comprises 0.25% by weight of POLYOX ethylene oxide polymers mixed into 99.75% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

83. (Previously Presented) The planarizing machine of claim 82, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

84. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises glycerol mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

85. (Previously Presented) The planarizing machine of claim 84, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

86. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises 10% by weight of glycerol mixed into 90% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

87. (Previously Presented) The planarizing machine of claim 86, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

88. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises polypropylene glycol mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

89. (Previously Presented) The planarizing machine of claim 88, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

90. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises 5% by weight polypropylene glycol mixed into 95% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

91. (Previously Presented) The planarizing machine of claim 90, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

92. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises 10% by weight polypropylene glycol mixed into 90% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

93. (Previously Presented) The planarizing machine of claim 92, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

94. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises polyvinyl alcohol mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

95. (Previously Presented) The planarizing machine of claim 94, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-20 cP.

96. (Previously Presented) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises 10% by weight of polyvinyl alcohol mixed into 90% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

97. (Previously Presented) The planarizing machine of claim 96, wherein the non-abrasive lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

98. (Currently Amended) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises ~~CARBOPOL~~ homopolymers and copolymers of acrylic acid crosslinked with a polyalkenyl polyether mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

99. (Previously Presented) The planarizing machine of claim 98, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

100. (Currently Amended) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises 0.25% by weight of ~~CARBOPOL~~ homopolymers and copolymers of acrylic acid crosslinked with a polyalkenyl polyether mixed into 99.75% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

101. (Previously Presented) The planarizing machine of claim 100, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

102. (Currently Amended) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises ~~POLYOX~~ ethylene oxide polymers mixed into a non-abrasive solution comprising an aqueous solution of ammonia.

103. (Previously Presented) The planarizing machine of claim 102, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.

104. (Currently Amended) The planarizing machine of claim 61, wherein the lubricating planarizing solution further comprises 0.25% by weight of ~~POLYOX~~ ethylene oxide polymers mixed into 99.75% by weight of a non-abrasive solution comprising an aqueous solution of ammonia.

105. (Previously Presented) The planarizing machine of claim 104, wherein the lubricating planarizing solution has a viscosity of at least approximately between 10-100 cP.